WHAT IS CLAIMED IS:

1. A method for depositing a film on a substrate in a process chamber, the method comprising:

(a) flowing a process gas comprising a plurality of precursor gases suitable for forming a plasma into the process chamber; and

(b) generating a plasma from the process gas to deposit the thin film on the substrate,

wherein the plurality of precursor gases are flowed into the process chamber such that the thin film is deposited at a center of the substrate more rapidly than at an edge of the substrate.

2. The method according to claim 1 wherein the film comprises a silicon oxide.

3. The method according to claim 2 wherein the plurality of precursor gases comprises a silane and a gas that contains oxygen.

4. The method according to claim 3 wherein the process gas further comprises an inert gas.

5. The method according to claim 4 wherein the inert gas is argon.

6. The method according to claim 1 wherein the process chamber comprises a top gas source and a side gas source and wherein at least one of such precursor gases is flowed through the top gas source at a higher rate than through the side gas source.

7. The method according to claim 6 wherein every such precursor gas is flowed through the top gas source at a higher rate than through the side gas source.

8. The method according to claim 7 wherein every such precursor gas is flowed only through the top gas source.

9. The method according to claim 1 wherein the process gas further comprises an inert gas.

10. The method according to claim 9 wherein the inert gas is argon.

11. A method of depositing a film over a substrate disposed in a chamber of the type having a first set of gas nozzles positioned to provide a flow of gas at a periphery of the substrate and a second nozzle positioned to provide a flow of gas above an upper surface of the substrate, the method comprising

(a) flowing a process gas into the chamber through the first set of gas nozzles and through the second nozzle during first and second periods; and

(b) forming a plasma from the process gas to deposit a film over the substrate during the first and second periods,

wherein a flow ratio of the process gas provided from the second nozzle relative to the first set of nozzles is greater during the second period than during the first period.

12. The method according to claim 11 wherein the film comprises a silicon oxide.

13. The method according to claim 12 wherein the film is deposited over an intermetal conductive layer.

14. The method according to claim 12 wherein the second nozzle comprises a pair of nozzles.

15. The method according to claim 14 wherein a silicon-containing gas is provided through one of the pair of nozzles and an oxygen-containing gas is provided through another of the pair of nozzles.

16. A method for etching a substrate in a process chamber, the method comprising:

(a) flowing an etchant gas into the process chamber; and

(b) generating a plasma from the etchant gas to etch the substrate,

wherein the etchant gas is flowed into the process chamber at a higher flow rate above the substrate than at a periphery of the substrate.

17. A computer-readable storage medium having a computer-readable program embodied therein for directing operation of a substrate processing system including a process chamber; a plasma generation system; a substrate holder; and a gas delivery system configured to introduce gases into the process chamber, the computer-

readable program including instructions for operating the substrate processing system to deposit a thin film on a substrate disposed in the process chamber in accordance with the following:

(a) flowing a process gas comprising a plurality of precursor gases suitable for forming a plasma into the process chamber,; and

(b) generating a plasma from the process gas to deposit the thin film on the substrate,

wherein the plurality of precursor gases are flowed into the process chamber such that the thin film is deposited at a center of the substrate more rapidly than at an edge of the substrate.

18. The computer-readable storage medium according to claim 17 wherein the plurality of constituent reaction gases comprises a silane and a gas that contains oxygen.

19. The computer-readable storage medium according to claim 18 wherein the process gas further comprises an inert gas.

20. The computer-readable storage medium according to claim 17 wherein the process chamber comprises a top gas source and a side gas source, wherein the gas delivery system is configured to introduce gases into the process chamber through the top gas source and the side gas source, and wherein the computer-readable program further includes instructions to flow at least one of such precursor gases through the top gas source at a higher rate than through the side gas source.

21. A substrate processing system comprising:

(a) a housing defining a process chamber;

(b) a high-density plasma generating system operatively coupled to the process chamber;

(c) a substrate holder configured to hold a substrate during substrate processing;

(d) a gas-delivery system configured to introduce gases into the process chamber;

(e) a pressure-control system for maintaining a selected pressure within the process chamber;

(f) a controller for controlling the high-density plasma generating system, the gas-delivery system, and the pressure-control system; and

(g) a memory coupled to the controller, the memory comprising a computer-readable medium having a computer-readable program embodied therein for directing operation of the substrate processing system, the computer-readable program including

(i) instructions to control the gas-delivery system to flow a process gas comprising a plurality of precursor gases suitable for forming a plasma into the process chamber; and

(ii) instructions to control the high-density plasma generating system to generate a plasma from the process gas to deposit a thin film on the substrate,

wherein the plurality of precursor gases are to be flowed into the process chamber such that the thin film is deposited at a center of the substrate more rapidly than at an edge of the substrate.

22. The substrate processing system according to claim 21 wherein the plurality of precursor gases comprises a silane and a gas that contains oxygen.

23. The substrate processing system according to claim 22 wherein the process gas further comprises an inert gas.

24. The substrate processing system according to claim 23 wherein the inert gas is argon.

25. The substrate processing system according to claim 21 wherein the process chamber comprises a top gas source and a side gas source, wherein the gas delivery system is configured to introduce gases into the process chamber through the top gas source and the side gas source, and wherein the computer-readable program further includes instructions to flow at least one of such precursor gases through the top gas source at a higher rate than through the side gas source.